

REMARKS

Claims 1-37, 90-107, 124, and 125, which were withdrawn from consideration, have now been cancelled without prejudice. Applicants reserve the right to pursue claims similar or identical to these claims in one or more applications claiming priority to the instant application.

Claim 108 has been amended to recite “at least one electrode being formed in a semiconductor layer coupled to a substrate,” incorporating some of the limitations of claim 113. Accordingly, claim 113 has been cancelled and claim 114 (which depended from claim 113) rewritten to depend from claim 108. No new matter has been added.

Claim 117 has been amended to recite “positioning the nanoscale wire on a substrate such that carriers can be injected from the substrate into at least a portion of the nanoscale wire.” Claims 126 and 127 have been amended to recite a substrate. Support for these amendments can be found in the specification, for instance, on page 19, line 26 to page 20, line 7. Thus, no new matter has been added.

Claim 66 has been amended to depend from claim 38, rather than claim 69, correcting the inadvertent typographical error.

Claims 38-89, 108-112, 114-123, and 126-129 are now pending for examination.

Rejections under 35 U.S.C. §112, ¶2

Claim 66 has been rejected under 35 U.S.C. §112, ¶2, as being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicants regard as the invention.

Claim 66 has been amended to depend from claim 38, rather than claim 69. Thus, it is respectfully requested that this rejection be withdrawn.

Rejections under 35 U.S.C. §102(e) with respect to Majumdar

Claims 38-49, 51, 54-65, 70-85, 108-114, 117, 118, 121, 123, and 126-129 have been rejected under 35 U.S.C. §102(e) as being anticipated by Majumdar, et al., U.S. Patent 6,996,147 (“Majumdar”).

Initially, Applicants do not concede that Majumdar is properly prior art to the Applicants' claimed inventions. Applicants reserve the right to establish invention dates for the claimed inventions that are on or before the effective 35 U.S.C. §102(e) date of Majumdar relied on in the Office Action.

Majumdar does not teach or suggest a nanoscale wire that responds to an electrical signal from a substrate to generate amplified stimulated emission of the radiation. In Majumdar, electrical signals are applied using electrodes on either end of the nanoscale wire (see, e.g., Fig. 32). However, there is no disclosure or suggestion that electrical signals are applied to the nanoscale wire from a substrate. Accordingly, it is believed that Majumdar does not anticipate the present invention, as claimed.

The Patent Office points to Col. 7, lines 28-32 of Majumdar to support a substrate. However, this section of Majumdar does not appear to teach a nanoscale wire able to lase. Instead, this section discusses fabrication of nanowires using vapor-liquid-solid chemical synthesis processes, and specifically lists several journal references that discuss this technique. Although some of the techniques involves growth on a substrate, the wires are then removed from the substrate. Thus, it is not clear how this section supports the rejection.

The Patent Office also refers to Col. 25, line 58 to Col. 26, line 22. However, it appears that Col. 26, lines 1-22 are not directed to lasers, but rather, are directed to single quantum dot LEDs (Col. 26, lines 2-3). Accordingly, it is not seen how this portion of Majumdar teaches or suggests a nanoscale wire able to lase.

With respect to Col. 25, lines 58-65, and Fig. 32 (referred to therein), Applicants do not see where there is a disclosure or a suggestion of using an electric signal from a substrate to facilitate generation of the amplified stimulated emission of the radiation. To the contrary, as previously mentioned, Majumdar teaches that electrical signals are applied using electrodes on either end of a nanoscale wire.

Accordingly, it is believed that independent claims 38, 108, 117, 126, 127, and 129, as amended, are not anticipated by Majumdar. It is thus respectfully requested that the rejection of these claims be withdrawn. The remaining claims depend, either directly or indirectly, from these

claims, and are believed to be allowable for at least the above-mentioned reasons. This, withdraw of the rejection of these claims is also respectfully requested.

Rejections under 35 U.S.C. §103(a) with respect to Majumdar

Claims 50, 52, 53, 66, 68, 69, 86, 88, 89, 115, 116, 119, and 122 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Majumdar.

These claims each depend, directly or indirectly, from independent claims 38, 108, or 117. For at least the reasons explained above with respect to the rejection under §102(e) in view of Majumdar, the premise of the rejection of these claims (that Majumdar teaches all of the limitations of independent claims 38, 108, or 117) is believed to be incorrect. Accordingly, although Applicants do not concede that there would have been any suggestion or motivation to make the modification proposed in the Office Action, the present rejection cannot stand, regardless. Thus, withdrawal of the rejection of these claims is respectfully requested.

Rejections under 35 U.S.C. §103(a) with respect to Majumdar in view of Yang

Claims 67, 87, and 120 have been rejected under 35 U.S.C. §103(a) as being unpatentable over Majumdar in view of Yang, *et al.*, “Controlled Growth of ZnO Nanowires and Their Optical Properties,” *Adv. Funct. Mater.*, Vol. 5, pages 323-331 (“Yang”).

Claims 67, 87, and 120 each depend, directly or indirectly, from independent claims 38 or 117. For at least the above-mentioned reasons with respect to the rejection under §102(e) in view of Majumdar, the premise of the rejection of these claims (that Majumdar teaches all of the limitations of independent claims 38 or 117) is believed to not be correct. Accordingly, although it is not conceded that there would have been any suggestion or motivation to combine Majumdar and Yang in the manner suggested in the Office Action, the present rejection cannot stand in any event. Thus, it is respectfully requested that the rejection of these claims be withdrawn.

CONCLUSION

In view of the foregoing amendments and remarks, this application should now be in condition for allowance. A notice to this effect is respectfully requested. If the Examiner believes, after this amendment, that the application is not in condition for allowance, the Examiner is requested to call the undersigned at the telephone number listed below.

If this response is not considered timely filed and if a request for an extension of time is otherwise absent, Applicants hereby request any necessary extension of time. If there is a fee occasioned by this response, including an extension fee, that is not covered by an enclosed check, please charge any deficiency to Deposit Account No. 23/2825.

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Respectfully submitted,

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